



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,722	03/29/2001	Martin R. Handforth	13888ROUS02U	4607

34845 7590 03/21/2006

STEUBING MCGUINNESS & MANARAS LLP
125 NAGOG PARK
ACTON, MA 01720

EXAMINER

NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
----------	--------------

2841

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,722

Applicant(s)

HANDFORTH ET AL.

Examiner

Jeremy C. Norris

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-33 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 and 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 12, 13 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 January 2006 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 2841

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, 6 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,219,292 (Dickirson) in view of US 5,767,575 (Lan).

Dickirson discloses, referring to figures 3-5, an interconnection device comprising: first (75) and second (74) outer layers, each including substrate material, and at least one inner layer (42) including at least one conductive signal trace (79) disposed on a rigid (see col. 3, lines 25-30) substrate material proximate to an edge of the interconnection device and being accessible for direct electrical connection with a corresponding exposed signal trace (39) wherein at least one conductive protrusion (solder, see col. 5, lines 20-25) is formed on said conductive inner layer trace. Dickirson does not specifically disclose a shielding disposed around the at least one signal trace [claim 1]. However, providing shielding to reduce cross talk and electromagnetic interference to have a better performance of the device is old and known in the art as evidenced by Lan (see col. 7, lines 20-30). Therefore, a person of ordinary skill in the art at the time of applicant's invention would have been motivated to provide the shielding around the trace of the structure of Dickirson, to reduce cross talk and electromagnetic interference to have a better performance of the device as it is old and known in the art and evidenced by Lan. Additionally, the modified invention of Dickirson teaches wherein

Art Unit: 2841

said conductive inner trace layer trace extends outward from the edge of the interconnection device [claim 2], wherein at least a portion of said first outer layer is removed to provide access to said conductive inner layer trace [claim 3], wherein said protrusion is malleable [claim 5], wherein said protrusion is resilient [claim 6], wherein said inner layer substrate material is organic (see Dickirson col. 5, lines 25-30) [claim 13].

Claims 12 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,917,707 (Khandros) in view of US 5,767,575 (Lan).

Khandros discloses, referring to figure 33, an interconnection device comprising, a printed circuit board having first (537) and second (539) outer layers, each including substrate material; and at least one inner layer including at least one conductive signal trace (542) disposed on substrate material proximate to an edge of the interconnection device and being accessible for direct electrical connection with a corresponding signal trace, wherein said inner layer substrate material is a ceramic (see col. 20, lines 25-30). Khandros does not specifically disclose a shielding disposed around the at least one signal trace [claim 12]. However, providing shielding to reduce cross talk and electromagnetic interference to have a better performance of the device is old and known in the art as evidenced by Lan (see col. 7, lines 20-30). Therefore, a person of ordinary skill in the art at the time of applicant's invention would have been motivated to provide the shielding around the trace of the structure of Dickirson, to reduce cross talk and electromagnetic interference to have a better performance of the device as it is old

Art Unit: 2841

and known in the art and evidenced by Lan. Additionally, the modified invention of Khandros teaches, wherein said conductive inner layer trace extends outward from the edge of the interconnection device [claim 29], wherein at least a portion of said first outer layer is removed to provide access to said conductive inner layer trace [claim 30], wherein at least one conductive protrusion (552) is formed on said conductive inner trace [claim 31], wherein said protrusion is malleable [claim 32], wherein said protrusion is resilient [claim 33].

Response to Arguments

Applicant's arguments with respect to claims 1-3, 5, 6, 12, 13, and 29-33 have been considered but are moot in view of the new ground(s) of rejection. Specifically, since the Examiner has provided the reference to Lan (US 5,767,575) to exemplify that the teaching of shielding signal layers is old and known in the art, Applicants' arguments are considered moot.

Conclusion

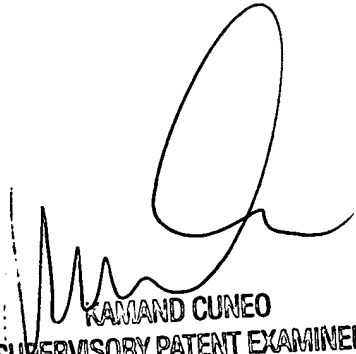
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2841

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCSN



RAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800